

End of Result Set

L5: Entry 1 of 1

File: USPT

Sep 30, 2003

US-PAT-NO: 6629135
 DOCUMENT-IDENTIFIER: US 6629135 B1

TITLE: Affiliate commerce system and method

DATE-ISSUED: September 30, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ross, Jr.; D. Delano	Alpharetta	GA		
Ross; Daniel D.	Dunwoody	GA		
Michaels; Joseph R.	Marietta	GA		
May; William R.	Atlanta	GA		
Anderson; Richard A.	Powder Springs	GA		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
DDR Holdings, LLC	Dunwoody	GA			02

APPL-NO: 09/ 398268 [PALM]
 DATE FILED: September 17, 1999

PARENT-CASE:

CROSS-REFERENCE TO RELATED PATENT APPLICATION This application claims the benefit, pursuant to 35 U.S.C. .sctn.119(e), of applicants' provisional U.S. patent application Ser. No. 60/100,697, filed Sep. 17, 1998, entitled "AFFILIATE COMMERCE SYSTEM AND METHOD".

INT-CL: [07] G06 F 15/16, G06 F 17/00, G09 G 5/00

US-CL-ISSUED: 709/218; 715/501.1, 345/744
 US-CL-CURRENT: 709/218; 345/744, 715/501.1

FIELD-OF-SEARCH: 705/25, 705/26, 709/203, 709/217, 709/218, 709/225, 707/501.1, 707/513, 715/501.1, 715/513, 345/738, 345/742, 345/744, 345/760, 345/804

PRIOR-ART-DISCLOSED:

U. S. PATENT DOCUMENTS

PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
<input type="checkbox"/> 5319542	June 1994	King, Jr. et al.	
<input type="checkbox"/> 5515270	May 1996	Weinblatt	
<input type="checkbox"/> 5537314	July 1996	Kanter	

<input type="checkbox"/>	<u>5590197</u>	December 1996	Chen et al.	
<input type="checkbox"/>	<u>5596702</u>	January 1997	Stucka et al.	
<input type="checkbox"/>	<u>5630125</u>	May 1997	Zellweger	
<input type="checkbox"/>	<u>5699528</u>	December 1997	Hogan	
<input type="checkbox"/>	<u>5710887</u>	January 1998	Chelliah et al.	
<input type="checkbox"/>	<u>5712979</u>	January 1998	Graber et al.	
<input type="checkbox"/>	<u>5715314</u>	February 1998	Payne et al.	
<input type="checkbox"/>	<u>5721827</u>	February 1998	Logan et al.	
<input type="checkbox"/>	<u>5724424</u>	March 1998	Gifford	
<input type="checkbox"/>	<u>5724521</u>	March 1998	Dedrick	
<input type="checkbox"/>	<u>5727159</u>	March 1998	Kikinis	
<input type="checkbox"/>	<u>5745681</u>	April 1998	Levine et al.	
<input type="checkbox"/>	<u>5796952</u>	August 1998	Davis et al.	
<input type="checkbox"/>	<u>5802299</u>	September 1998	Logan et al.	
<input type="checkbox"/>	<u>5809481</u>	September 1998	Baron et al.	
<input type="checkbox"/>	<u>5812769</u>	September 1998	Graber et al.	
<input type="checkbox"/>	<u>5819285</u>	October 1998	Damico et al.	
<input type="checkbox"/>	<u>5825884</u>	October 1998	Zdepski et al.	
<input type="checkbox"/>	<u>5848396</u>	December 1998	Gerace	
<input type="checkbox"/>	<u>5860068</u>	January 1999	Cook	
<input type="checkbox"/>	<u>5862325</u>	January 1999	Reed et al.	
<input type="checkbox"/>	<u>5878219</u>	March 1999	Vance, Jr. et al.	
<input type="checkbox"/>	<u>5884033</u>	March 1999	Duvall et al.	
<input type="checkbox"/>	<u>5884045</u>	March 1999	Kurihara	
<input type="checkbox"/>	<u>5890175</u>	March 1999	Wong et al.	707/505
<input type="checkbox"/>	<u>5893091</u>	April 1999	Hunt et al.	
<input type="checkbox"/>	<u>5894554</u>	April 1999	Lowery et al.	
<input type="checkbox"/>	<u>5895468</u>	April 1999	Whitmyer, Jr.	
<input type="checkbox"/>	<u>5897622</u>	April 1999	Blinn et al.	
<input type="checkbox"/>	<u>5898836</u>	April 1999	Freivald et al.	
<input type="checkbox"/>	<u>5907830</u>	May 1999	Engel et al.	
<input type="checkbox"/>	<u>5913040</u>	June 1999	Rakavy et al.	
<input type="checkbox"/>	<u>5913202</u>	June 1999	Motoyama	
<input type="checkbox"/>	<u>5915243</u>	June 1999	Smolen	
<input type="checkbox"/>	<u>5918239</u>	June 1999	Allen et al.	
<input type="checkbox"/>	<u>5926798</u>	July 1999	Carter	
<input type="checkbox"/>	<u>5930765</u>	July 1999	Martin	
<input type="checkbox"/>	<u>5933811</u>	August 1999	Angles et al.	

<input type="checkbox"/>	<u>5937392</u>	August 1999	Alberts	
<input type="checkbox"/>	<u>5940834</u>	August 1999	Pinard et al.	
<input type="checkbox"/>	<u>5940843</u>	August 1999	Zucknovich et al.	
<input type="checkbox"/>	<u>5948061</u>	September 1999	Merriman et al.	
<input type="checkbox"/>	<u>5956709</u>	September 1999	Xue	
<input type="checkbox"/>	<u>5963915</u>	October 1999	Kirsch	
<input type="checkbox"/>	<u>5978766</u>	November 1999	Luciw	
<input type="checkbox"/>	<u>5983227</u>	November 1999	Nazem et al.	
<input type="checkbox"/>	<u>5983270</u>	November 1999	Abraham et al.	
<input type="checkbox"/>	<u>5987498</u>	November 1999	Athing et al.	
<input type="checkbox"/>	<u>5991735</u>	November 1999	Gerace	
<input type="checkbox"/>	<u>5991740</u>	November 1999	Messer	
<input type="checkbox"/>	<u>6029141</u>	February 2000	Bezos et al.	
<input type="checkbox"/>	<u>6141666</u>	October 2000	Tobin	707/513
<input type="checkbox"/>	<u>6253188</u>	June 2001	Witek et al.	705/14

OTHER PUBLICATIONS

Dialog file 16 (database PROMT (R)), No. 6016914, BookSite launches version 3.0 of the popular electronic commerce web site. Business Wire, 2 pages, Feb. 23, 1996.

Dialog file 16 (database PROMT (R)), No. 6296727, "Amazon.com introduces "Amazon.com Associates"--a new model for internet-based commerce." Business Wire, 3 pages, Jul. 18, 1996.

Can Mixing `Cookies` with Online Marketing be a Recipe for Heartburn? (Infoworld, vol. 18, No. 30), Jul. 22, 1996.

RealTime Travel Info Available Online (Dialog database file 9, document 01107096), Jan. 17, 1995.

Online Growth Virtually Untapped; PC Vendors Taking More Advantage of Booming Sales (Computer Retail Week vol. 4, No. 64, p. 160), Jun. 6, 1994.

Selected document from Books.com Web site describing Book Stackes Unlimited links partner program.

Selected documents from Incognito Cafe Web site describing several on-line bookstore links, undated (5 printed pages).

Resnick P., Iacovou, N., Suchak, M., Bergstrom, P., and Riedl, J., GroupLens: An Open Architecture for Collaborative Filtering of Netnews. Proceedings of ACM 1994 Conference on Computer Supported Cooperative Work, Chapel Hill, NC, pp. 175-186.

Balabanovic, M., and Shoham, Y., Fab: Content-Based Collaborative Recommendation. Communications of the ACM, vol. 40, No. 3, (Mar. 1997) pp. 66-73.

"Agent-Mediated Electronic Commerce: Issues, Challenges and Some Viewpoints", Hyacinth S. Nwana, Jeff Rosenschein, Tuomas Sandholm, Carles Sierra, Pattie Maes, and Rob Guttmann, Proceedings of the 2.sup.nd International Conference on Autonomous Agents, pp. 189-196, May (1998).

"An Adaptive Algotithm for Learning Changes in User Interests", Dwi H. Widyabtoro, Thomas R. Ioerger and John Yen, Proceedings of Conference on Knowledge and Information Management, pp. 405-412, Nov. (1999).

"A Multilevel Approach to Intelligent Information Filtering: Model, System, and Evaluation", ACM Transactions on Information Systems, vol. 15, Issue 4 (1997), pp. 368-399.

Web Pages, <http://www.broadvision.com> (1996).

ART-UNIT: 2142

PRIMARY-EXAMINER: Powell; Mark R.

ASSISTANT-EXAMINER: Cardone; Jason D.

ATTY-AGENT-FIRM: Needle & Rosenberg, P.C.

ABSTRACT:

The present invention is directed to an e-commerce outsourcing system and method that provides hosts with transparent, context sensitive e-commerce supported pages. The look and feel of a target host is captured for future use. The look and feel is captured by receiving the identification of an example page on the target host, retrieving the page, identifying the look and feel elements of the identified page and storing the identified elements. The host is provided with links correlating the host with a link for inclusion within a page on the host website for serving to a visitor computer, wherein the provided link correlates the host website with a selected commerce object contextually related to material in the page. The commerce object can be a product, a product category or a dynamic selection indicator. Upon activation of the provided link, the visitor computer is served with an e-commerce supported page with the look and feel of the host website associated with the activated link and with content based upon the commerce object associated with the activated link. Where the commerce object is a dynamic selection indicator the content is selected at the time of activation based upon an analysis of the page containing the activated link.

18 Claims, 26 Drawing figures

End of Result Set [Generate Collection](#) [Print](#)

L5: Entry 1 of 1

File: USPT

Sep 30, 2003

DOCUMENT-IDENTIFIER: US 6629135 B1
TITLE: Affiliate commerce system and method

Application Filing Date (1):
19990917

Brief Summary Text (5):

The World Wide Web began as a simple interface to the Internet using HTML (hypertext markup language) as a means of linking documents together. This allowed a researcher, for example, to embed "active" references in his or her documents that, if selected, would enable the reader to review the source of the reference first-hand. Programmers quickly capitalized on this technology, creating "web sites" which reflected less staid purposes, laying the groundwork for the literal "web" of content and interactive applications that exists today. In the early stages, website programmers increased visitor traffic by placing "links" within their websites to other websites, usually related in content or function, in exchange for a reciprocal link. Additionally, directories of websites, such as Yahoo, and search engines, such as WebCrawler, began to appear in an attempt to organize the content of the Internet so that its users could create "custom links pages" related to specific topics.

Brief Summary Text (6):

In these early days, the Web was mostly trafficked by programmers and "techies," and a commune-type "share and share alike" mindset prevailed. As a result, people were happy to litter their sites with links, knowing that, odds were, others would do the same for them and the traffic gain/loss would probably balance out. So, despite the fact that by including and promoting a "links" page, website operators were effectively encouraging people to leave their website, link sharing developed into a standard practice.

Brief Summary Text (7):

Then, entrepreneurs and other business-oriented individuals came along and introduced capitalism to the Internet. Profit-oriented website operators began to seek visitors wherever they could find them, and opportunistic owners of popular sites began to realize that they had an increasingly scarce resource--visitors. Such website owners began to sell the links they had previously offered for free in the form of paid advertisements. Search engines and directories became increasingly popular for two main reasons. First, the number of websites was growing astronomically, so it was becoming harder for users to find what they wanted. Second, since reciprocal links were either going away or were being replaced by links exclusively to non-competing websites, search engines and directories were the only way to find multiple resources for a single topic.

Brief Summary Text (8):

Amid frantic efforts on the part of corporate websites to get noticed, the sale of banner ads blossomed into a large industry called Internet advertising. Thousands of websites created space for banner ads and called the space "inventory." At first, they priced ads as a print ad might be priced: by CPM, or cost per thousand "impressions" each ad made on website visitors. Over time this pricing model gave way to arrangements more favorable to advertisers such as Cost Per Click-through and Cost Per Inquiry (meaning the advertiser only needs to pay when a visitor sees a banner ad and clicks on it and completes an information request form on the advertiser's site).

Brief Summary Text (9):

Some of the most successful Internet commerce websites, led by online bookseller Amazon.com, have begun to take an even more results-driven approach to the purchase of banner ads. They have offered to pay only for ads that, when clicked, result in a product sale. To provide a stronger incentive than a simple banner ad, these companies let third-party website owners list a subset of their goods (e.g., 10 of Amazon.com's millions of books, selected by the website owner) and promote them as they choose within their websites. Initiatives such as these have come to be described as "affiliate programs", "associate programs" or "commission based advertising programs".

Brief Summary Text (10):

The benefits of affiliate programs are significant. To the website owner, they constitute revenue-generating web content without requiring an investment in product inventory or additional infrastructure. They also create new revenues without necessarily reducing the website's available ad inventory. However, the greater benefit almost always accrues not to the affiliate, but to Amazon.com and other online stores. Not only do these sites benefit from the marketing resources of the affiliate operators, they are also able to lure the visitor traffic away from the affiliate. Once a visitor clicks on an affiliate ad and enters an online store, that visitor has left the affiliate's site and is gone. At best, affiliates are able to use "frames" to keep a shell of their own website around the vendor's site, but this is only a marginally effective solution. No alternatives have been able to address a fundamental drawback of the affiliate programs--the loss of the visitor to the vendor. At best, some Internet affiliate sales vendors have begun placing "return to referring website" links on their order confirmation screens, an approach that is largely ineffective. This limitation of an affiliate program restricts participation to less trafficked websites that are unconcerned about losing visitors. Meanwhile, search engines and directories continue to increase in their usefulness and popularity, while banner ads and old-style links continue their rapid loss of effectiveness and popular usage.

Brief Summary Text (13):

The affiliate commerce system and method of the present invention represents a new paradigm of co-marketing on the Internet. Not only does the present invention provide its Hosts with the added value and incremental revenues of traditional affiliate programs, but the company also enables Hosts to control the customer experience before, during, and after the purchase transaction. At the same time, Merchants receive the same benefits as with older affiliate programs, i.e., increased marketing potential, incremental sales, and new customer relationships, but without the restrictive limitations of affiliate programs--the loss of hard-won visitor traffic.

Brief Summary Text (14):

Additionally, the present invention can actually obviate the need for some merchants to invest in their own unique Internet presence. By using the present invention as their primary online sales channel, these Merchants can focus on product development, production, and order fulfillment and leave the exploration of the Internet to experts. The resulting ongoing cost savings and operational efficiencies magnify the potential benefits of the Internet while reducing the initial costs.

Brief Summary Text (16):

The look and feel of a host is captured and stored by receiving an identification of an example page of a target host. The identified page is retrieved. The look and feel elements of the page are identified, and these elements are stored for future use in generating outsourced transparent pages, pages served by a server other than the host but with the host's look and feel. Such pages give the viewer of the page the impression that she is viewing pages served by the host.

Brief Summary Text (18):

A cost effective, scalable architecture may be used to serve dynamically constructed pages such as those served by the e-commerce outsource provider. This architecture includes three levels: a Web server layer, an application server layer and a database server layer.

Brief Summary Text (19):

The Web server layer provides a front end presentation layer for interacting with end users. This layer may consist of one or more interchangeable low cost server systems. Any request from an end user may be fielded by any system within the layer. The selected system can contact any application server within the application layer.

to provide processed ~~data~~ for use in responding to the ~~and~~ user request.

Brief Summary Text (20):

The application layer supports interacting with the database server level to acquire needed data and processing it prior to presentation by the Web server layer. As with the Web server layer, this layer may consist of one or more interchangeable low cost server systems. Any Web server system may submit a request to any application server. The application server includes processing functionality suitable for the types of pages to be dynamically constructed.

Brief Summary Text (21):

The database server layer supports low level management of data used in dynamic page construction. The data store across the one or more low cost server systems is seamlessly viewed as an integrated whole. As a consequence, any database server within the layer can field any request for data submitted by an application server.

Drawing Description Text (3):

FIG. 2 illustrates the software architecture of the Web server layer.

Drawing Description Text (4):

FIG. 3 illustrates the software architecture of the application server layer.

Detailed Description Text (3):

A typical embodiment of the present invention will include a data store including a look and feel description associated with a host website, a communications link to a visitor computer, and a processor. The processor performs the tasks of capturing a look and feel description associated with a host website, storing the captured look and feel description in the data store, providing the host website with a link that links correlates the host website with a commerce object for inclusion within a page on the host website and which, when activated, causes the processor to serve an e-commerce supported page via the communication link with a look and feel corresponding to the captured look and feel description of the host website associated with the provided link and with content based on the commerce object associated with the provided link. The Internet serves as the communication link to visitor computers.

Detailed Description Text (4):

In a preferred embodiment as exhibited by FIG. 1, the duties of the processor are split among several computer systems 120a-120c, 125a-125d, 130a-130b. The data store may be implemented through a database system 130a-130b, 135a-135d. The Internet 110 serves as the communication link to visitor computers 105a-105f. In this preferred embodiment, the system utilizes multiple inexpensive computer systems at every level of the architecture. Routing between levels will automatically distribute the load amongst the functioning computers. Increasing throughput becomes a matter of adding more computers, not scaling up the existing ones. This arrangement also provides fault tolerance since the failure of one server will not incapacitate the system as long as another server providing the same service is alive. This approach also permits the distribution of servers geographically. A router 115 may also provide further load balancing.

Detailed Description Text (5):

The tasks performed by the processor may utilize a variety of underlying software technology. In a preferred embodiment, the software architecture can be divided into 3 tiers: web server, application-server and database-server. Each tier is comprised of a number of software layers.

Detailed Description Text (6):

Web Server Tier

Detailed Description Text (7):

The Web Server tier accesses application functionality by calling a single "Request" Application Programming Interface (API). The API will take a Document Object Model (DOM) (as specified by W3C in <http://www.w3.org/TR/REC-DOM-Level-1>, which is expressly incorporated herein by reference in its entirety) object as a parameter and return a DOM object as the response. The request will be relayed to the application server tier where a dispatching method will unpack the request object, inspect it, invoke the desired method, and send back the response object. This approach means that new functionality becomes available as soon as the application server is upgraded. It is not necessary to develop a set of "stubs" that mirror the

new API call. This is major advantage because new functionality in the application tier can be exploited immediately simply by modifying the Active Server Page (ASP) scripts. No web server resident Dynamic Link Libraries (DLLs) need to be upgraded so the server does not need to be shut down. The web server tier will typically run on server computers 120a-120c having a multitasking operating system such as Windows NT from Microsoft or other suitable operating system software. The Web Server tier contains the following layers as illustrated in FIG. 2: Web Server Software 210. In a preferred embodiment, IIS by Microsoft is the server software. It supports serving side scripting using the VBScript scripting language. ASP Scripts 220. All HTML content is rendered by ASP server scripts. The ASP scripting environment can interact with software modules written to Microsoft's COM specification. COM Adapters 230. A set of COM wrappers provides the bridge between the ASP scripts and other elements of the system. The wrappers provide the necessary data conversions but do not contain any substantial functionality. The wrappers are not application specific. API Client Layer 240. The API Client Layer consists of the very thin "request" API described above. This layer cooperates with the Object Cache layer. For example, before retrieving a catalog from the application layer, this layer may check to see if the requested catalog is already in the object cache. Object Cache 250. The object cache contains the responses to previously submitted requests. All items in the cache are marked with an expiration time that is set at the time they are originally retrieved. The purpose of this layer is to reduce the load on the application tier. Remote Procedure Call Client 260. The Remote Procedure Call Client provides connectivity to the application tier. It also provides request routing. In the event of application server failure, this client will automatically reconnect to a working server. This piece of software is not application dependent. In a preferred embodiment, the DBMS Component Server Client is the Objectstore Component Server Client (OCSC).

Detailed Description Text (8):

In a preferred embodiment, the Web server layer supports the following four Web interface modules. In a preferred embodiment, these modules are encoded with ASP to generate appropriate HTML and Javascript. The four modules are as follows:

Detailed Description Text (11):

A merchant representative must login before performing any system activities. Any valid merchant user will be able to perform all possible actions on the merchant to which it is related. Only registered merchants will have a valid account. An account for a merchant is established when the merchant registers with the system. A merchant representative may initiate registration via a web interface. The signup process must collect basic merchant information, including the information necessary to pay the merchant, and a password, which will be used to create a user account for the merchant. Once the merchant is approved (this may be automatic), the merchant will be sent an email containing a unique user id which can be used to login to the system.

Detailed Description Text (40):

A merchant representative can access a web interface that allows her to report the status of orders. This includes: reporting when the order was shipped, along with tracking information, and the status of all returned items.

Detailed Description Text (45):

The Merchant Manager also allows the merchant to review which hosts have built links to that merchant's products. The merchant can also view the host web page containing such links.

Detailed Description Text (48):

Automated interfaces can be introduced for merchants wishing to integrate their business systems with the functionality supported by the present inventions. Merchants can update their online catalogs, retrieve information on orders placed, and send order status updates back via automated interfaces. This integration is accomplished through the establishment and use of a standardized communication protocol.

Detailed Description Text (50):

Automated requests and responses are XML documents as described by the W3C's XML 1.0 specification, which may be found at <http://www.w3.org/TR/REC-xml> and which is expressly incorporated herein by reference in its entirety. The XML specification only describes the syntax of an XML document, it does not place any restrictions on the content of the document. The content of requests and responses is described

using a formal notation known as DCD (for Document Content Description). DCD's are described in a note that was submitted to the W3C by Microsoft and IBM. The DCD note can be viewed online at: <http://www.w3.org/TR/NOTE-dcd> and which is expressly incorporated herein by reference in its entirety. A specific DCD describes the format of a request or response in the same way that the SMTP specification describes the format of an email. Typical DCDs for Automated Interfaces may be accessed at the following URLs:
<http://automation.nexchange.net/dcd/ManageInventory.01.02.dcd.xml> and
<http://automation.nexchange.net/dcd/ManageCatalog.01.02.dcd.xml>, both documents are expressly incorporated herein by reference in their entirety.

Detailed Description Text (63):

The following is an example request attempt to add one new product and to update the price of an existing product.

Detailed Description Text (66):

For a host to gain access to the host manager system, the host must be registered. FIG. 4 depicts a flow chart for a typical registration process. A host representative may initiate contact 410 with the system via a web interface. The signup process must collect basic host information 420, including the information necessary to pay the host a commission for purchases through his site, which is saved by the system 430. Optionally, a click agreement containing terms of use 440 may be presented requiring agreement 444 to proceed. If at some point the representative elects to cancel 425, 458 or reject the use agreement 448, he or she is returned to her point of entry 410. The system may then request the representative to select a user identification and a password 450. If the selected user identification is already in use 454, the representative may be prompted to select a user identification 450. The information associated with the host is stored 460, and the representative may proceed to the host manager system page 470.

Detailed Description Text (81):

The code the host embeds on their web site is as follows: ****YOUR TEXT OR IMAGE HERE****

Detailed Description Text (82):

There are several points to note here: The image src (img.asp) is actually an ASP program that returns a single transparent pixel. This is used to track impressions (how many times the link was displayed on the host site). The route.asp page is a page that routes the customer to the shopping page. As additional servers are added, this will become very important for load balancing. The `xxx` for the LinkId='xxxx' is the Link ID assigned to the Link in the Link Generator.

Detailed Description Text (131):

Application Server Tier

Detailed Description Text (132):

The business functionality is provided via "application servers". An application server will consist of one or more of the business modules, wrapped with an appropriate middleware adapter. This arrangement allows delivery of services via many different mechanisms. For example, if it becomes desirable to serve some functions to a Java client, a Java Remote Method Invocation (RMI) version of an application server could be built. The new server could be developed rapidly because only an RMI "wrapper" would need to be developed, while the application logic would be reused. In a preferred embodiment, this layer consists of a set of core C++ software modules that encapsulate business functions.

Detailed Description Text (133):

The Application Server tier may run on one or more application server computers. The application servers are stateless. This means that, for two application servers serving the same functionality, "one is as good as another". In the event of failure, a client's requests may be handled by a different server than before the failure. Since it does not matter which server services a request, routing is greatly simplified. The stateless server approach also provides excellent fault tolerance since all application servers can back each other up. Use of a combination of "sticky routing" and caching to significantly ameliorate any detrimental performance implications of the stateless approach, while preserving most of the benefit. Once a client begins using a particular service, the system will show a preference for routing future requests from that client to the same server. The servers maintain a cache recently used data and will only access the database if the desired item cannot be used in cache. Since the routing is sticky, the client's data

will often be in cache, and in many cases, no database access will be required. Should the client be routed to a new server, the session data can be retrieved from the database as occurs in the "vanilla" stateless model. In a preferred embodiment, the functionality of this layer utilizes one or more low cost server systems 125a-125d running a suitable operating system such as Microsoft Windows NT. This tier is also composed of several software layers as illustrated in FIG. 3: Remote Procedure Call Server 310. This software provides connectivity to the Web Server layer and is not application dependent. In a preferred embodiment, this software layer is the Objectstore Component Server. Application Logic 320. This software encapsulates the business functionality. The design of this software layer and the various application servers is more fully described below. Virtual Database 330. The virtual database layer allows the application data to be distributed across multiple Database servers while insulating the application layer from the physical storage configuration. The virtual database contains a table that maps object types to physical databases. All database objects or records of a given type are distributed across the permissible databases. Databases can be added while the system is live to permit expansion onto new servers. Overburdened databases can be closed to prevent assignment of new data to them. Databases can be moved to different physical servers. All stored objects are referenced by a handle which is unaffected by the physical location of the referenced data. The virtual database layer also permits a collection of objects distributed across multiple servers to be indexed and searched. DBMS Client 340. This software provides access to data stored in the databases. In a preferred embodiment, the DBMS client is Object Design's Objectstore client. All Objectstore clients contain a cache of recently used database pages. An optimistic locking scheme is used to ensure cache consistency. The caching scheme is very effective in the present invention because it is optimized for many readers and few writers.

Detailed Description Text (134):

In a preferred embodiment, the application server layer includes the following eight application servers:

Detailed Description Text (136):

The Cashier server is analogous to a cashier in a "bricks and mortar" store. The cashier's responsibilities are listed below: Collecting Information Necessary To Complete a Sale. This information will include billing information, shipping address(s) and preferred shipping methods. In some cases, the information to be collected may depend on the contents of the order. The cashier will also access the appropriate merchant policy information to assist in determining what data should be collected. Providing an Itemized Account of the Total. Upon receiving the necessary data, the cashier will compute the applicable taxes, shipping charges, etc, and provide an itemized account of the order total. Execute the Sale. Upon request, the cashier will execute the sale. A copy of the relevant information will be sent to the credit processor. When the credit processor approves the orders, the cashier will break the customer's order into individual merchant orders and forward them to the Merchants' Order Tracking server. The cashier will also post a record to the Ledger at this time.

Detailed Description Text (138):

The catalog is an arrangement of product information. The catalog server supports a hierarchical browsing mode and various searching functions. Its responsibilities are listed below: Retrieve a catalog upon request. The catalog will include all content for a shopping experience. For products, the information will include the product description, price and options. Retrieve a list of products matching a query. This will initially support simple keyword searching, but may be expanded to more sophisticated searching techniques.

Detailed Description Text (151):

Database Server Tier

Detailed Description Text (152):

Finally, the Database server tier is composed of a single software layer. This layer is responsible for low level manipulation of the data in the one or more databases. This tier may consist of multiple database servers. Using multiple servers is a major advantage for obvious reasons. The system's database chores can be distributed to many different servers. In a preferred embodiment, the database server is Object Design's Objectstore server. Objectstore supports a "warm failover" mode which allows a backup server to take over automatically if the primary should fail. An Microsoft SQL server is also used in the preferred embodiment to maintain financial

records although properly configured another DBMS such Objectstore or a commercially available accounting package could provide capability suitable for financial record keeping.

Detailed Description Text (158):

A Host is the operator of a website that engages in Internet commerce by incorporating one or more link to the e-commerce outsource provider into its web content. The responsibilities of a Host are to: Use the outsource provider Host Manager service bureau to select the Merchants and products that will be offered from the Host's website Promote transactions through the e-commerce outsource provider hosted by the website Regularly review the Merchant offerings for which they have been approved in order to take advantage of new products and to review sales and promotional strategies made available to them by the Merchant

Detailed Description Text (160):

The role of outsource provider is to: Develop and maintain the outsource provider service bureau--the systems and software which provide the platform for e-commerce support services Identify and recruit target Host websites and monitor/manage these relationships Create customer-transparent Host processing "pages" on a secure server to receive order and payment information Create, maintain, and update the "look & feel capture" process through which consumers are able to shop in a Merchant-controlled storefront within the design and navigational context of the Host website, preserving the ownership of the visit experience by the Host Authorize credit card transactions (in most cases) Process credit card payments for orders received (in most cases) Pay periodic commissions to Hosts for orders shipped during a prior period Transmit orders to Merchants Pay Merchants for orders filled Manage the commission structure for Merchant-Host relationships to maximize sales and revenues Screen and approve Host applications Support and monitor the merchandise return/refund process and other customer service functions

Detailed Description Text (163):

The overall transaction process is very straightforward. The following is a list of the steps involved in receiving and processing an order request. a) A customer visits a Host website and, through contextually relevant content, becomes interested in a product offered. b) The customer selects the item(s) that she wishes to purchase by clicking a product image, banner-style link, or text link, or other offer format taking her to a dynamically generated web pages which retain the look and feel of the referring Host and are served by the e-commerce outsource provider. c) The customer browses through the products offered, indicating which items are to be purchased and in what quantities via forms on-screen. Selected items appear within the shopping cart at the top of the shopping interface. The user remains on the product screen without ever being involuntarily removed to a detailed shopping cart-only screen, representing a significant enhancement over most shopping cart technology in place today. When all desired products are selected, the customer initiates the checkout procedure, never leaving the Host website. d) The secure checkout interface appears, still consistent in look and feel with the Host's referring website. The customer completes the order form, provides all billing and shipping information required, confirms the items selected for purchase, and remits credit card information for payment processing. e) Assuming the payment method is authorized, the customer is returned to another section of the Host's website, possibly just returning to the page in which the offer was placed, as determined by the Host. f) The e-commerce outsource provider passes the order to the Merchant in real time. The credit card may be charged at this point or upon confirmation of shipment. g) The Merchant receives and logs the order. h) The Merchant then assembles and ships the order to the customer, keeping the outsource provider apprised of the order status. i) Periodically, the outsource provider will remit payment to the Merchant for that period's filled orders. j) Periodically, the outsource provider will remit payment to Hosts for all commissions earned in the prior period.

Detailed Description Text (165):

The process flow for a prospect to become a Host and be fully able to endorse/promote/offer Merchant products is as follows: a) Hosts are recruited from three sources: direct recruiting, in which the Host prospect is identified by and approached by an e-commerce outsource provider representative; passive recruiting, in which the Host has been referred to the outsource provider by other Hosts, relevant meta-sites (sites that contain lists of and links to other sites/services), or other sources; and Host Agent recruits, in which a specialized third party Agent identifies and approaches Host prospects. In many cases, the use of online signup

forms and brochures may be a factor in recruitment. b) Prospect completes the Host application form (except where preapproved), providing information about the type of website(s) operated by the Host, some traffic statistics about these websites and general visitor demographics, and complete contact information. The prospect also selects an outsource provider system user ID and password which will later be used to access the system, retrieve important Hosting information and programming, and modify the custom materials in the outsource provider transaction processing engine. c) The application is received and the information therein is reviewed, and the application is either approved or rejected (unless this is a preapproved Host). If approved, the Host's ID and password are activated, and an automated message is sent to the new Host informing them of their approval. This message will also contain instructions for accessing the e-commerce outsource provider system, setting up their links to the outsource provider, and inserting outsource provider data into their website(s). Preapproved Hosts will be immediately able to access this system upon submission of their application. d) Host accesses e-commerce outsource provider system to begin the step-by-step setup process. The Host first identifies a page from their own website which will provide the look and feel to be replicated. Following this, the Host configures product selections for each of its approved Merchants and downloads product images, text, and CGI/HTML code for their own website. Host then completes changes to website and activates new content. Hosts are free to promote their use of the outsource provider as they feel is suitable to the product at any time and with any frequency, subject to reasonable limitations. e) Hosts will be able to access real-time reports about transaction volume including number of users, average purchase amount per user, number of purchases on specified days or within specified date ranges. Hosts can create customized reports to determine conversion rates, top selling products, commissions earned, paid, and due, and other pertinent information. This information can be leveraged by the e-commerce outsource provider and the Host to improve the efficacy of targeted marketing efforts on the Host's website.

Detailed Description Text (168):

This flow can be described as follows: a) Customer, visiting Host, activates link to commerce object within context of Host's website. This activation is typically accomplished by clicking on a hyperlink of some kind within a webpage of the Host's website. b) The e-commerce outsource provider launches new storefront featuring specific products or product category for Merchant, as determined by Host, with the look and feel of the Host's site. The user is not made aware of the fact that this shopping experience is taking place on an outsourced server. c) As customer browses through featured items in the Merchant's catalog, the outsource provider serves additional pages while maintaining the look and feel of the Host. The system maintains a dynamic record of customers activities including products reviewed, items selected for purchase (placed into shopping cart), and time spent shopping. The e-commerce outsource provider uses a highly reliable and accurate tracking technology throughout the shopping experience. d) Upon checkout, the system processes customer billing, shipping, and order information via secure (encrypted) data transmission (unless the consumer opts for non-encrypted transmission). This process includes an order confirmation process and a process by which a non-approved credit card transaction may be corrected and resubmitted. e) Upon approval, the outsource provider performs several simultaneous functions: Thank you screen is displayed to customer Customer is prompted to "continue" browsing Host's website. E-mail confirmation is sent to customer detailing order information, fulfillment process, customer service terms and procedures, and other relevant information. Order is transmitted to the Merchant electronically, via e-mail or direct link to order entry system. Order is logged into transaction database and logged by system in conjunction with Host referral information. Host is notified that a sale has been made and commission dollars have been earned.

Detailed Description Text (173):

The steps of the Merchants transaction flow after they have been established within the system are as follows: a) The designated recipient of orders within the Merchant organization will check for new orders at least on a daily basis, if not more frequently. Orders are received by the Merchant via e-mail or other electronic notification, including automated direct input to legacy order management systems owned or operated by the Merchant. These orders include all pertinent customer data required for fulfillment of each order. Merchants may also view all orders online, sorted by date, status (new/viewed), or other criteria, and download orders in bulk form directly from the outsource provider. b) After receiving the order, the Merchant will ship the order to the Customer within a reasonable time period for the type of merchandise ordered. Merchant will have the ability to modify the shipping

status of the orders within the system. Merchants are obligated to provide timely shipping of their products. If any item ordered is out of stock or discontinued, the Merchant must update their catalog on the e-commerce outsource provider immediately and notify any affected customers immediately via e-mail or regular mail. Orders should be processed according to whatever internal process flow has been established by the Merchant. c) Upon receipt of payment for the prior month's orders, the Merchant is responsible for reconciling the amount remitted with their own fulfillment records. Any disputes should be addressed by accessing the Merchant interface and querying/updating records.

Detailed Description Paragraph Table (4):

updateIfExists='1'> <UpdateProductDef id='saw'
image='http://216.0.58.242/rmtools/fw132saw.jpg' />

Other Reference Publication (1):

Dialog file 16 (database PROMT (R)), No. 6016914, BookSite launches version 3.0 of the popular electronic commerce web site. Business Wire, 2 pages, Feb. 23, 1996.

Other Reference Publication (2):

Dialog file 16 (database PROMT (R)), No. 6296727, "Amazon.com introduces "Amazon.com Associates"--a new model for internet-based commerce." Business Wire, 3 pages, Jul. 18, 1996.

Other Reference Publication (3):

Can Mixing 'Cookies' with Online Marketing be a Recipe for Heartburn? (Infoworld, vol. 18, No. 30), Jul. 22, 1996.

Other Reference Publication (4):

RealTime Travel Info Available Online (Dialog database file 9, document 01107096), Jan. 17, 1995.

Other Reference Publication (5):

Online Growth Virtually Untapped; PC Vendors Taking More Advantage of Booming Sales (Computer Retail Week vol. 4, No. 64, p. 160), Jun. 6, 1994.

Other Reference Publication (6):

Selected document from Books.com Web site describing Book Stacks Unlimited links partner program.

Other Reference Publication (7):

Selected documents from Incognito Cafe Web site describing several on-line bookstore links, undated (5 printed pages).

Other Reference Publication (13):

Web Pages, <http://www.broadvision.com> (1996).